



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,657	10/03/2003	Kirk Michael Bresniker	200208655-1	9753

22879 7590 01/29/2007  
HEWLETT PACKARD COMPANY  
P O BOX 272400, 3404 E. HARMONY ROAD  
INTELLECTUAL PROPERTY ADMINISTRATION  
FORT COLLINS, CO 80527-2400

EXAMINER
----------

STOYNOV, STEFAN

ART UNIT	PAPER NUMBER
----------	--------------

2116

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/678,657	BRESNIKER ET AL.	
	Examiner	Art Unit	
	Stefan Stoynov	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2116

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brock et al., U.S. Patent No. 6,836,849 in view of Zimmer et al., U.S. Patent No. 7,051,215 (per PTO-892, dated 07/31/2006). Brock and Zimmer show the claim limitations in Figures 1-5 and 1-6, respectively.

Regarding claim 1, Brock discloses a rack equipment management system comprising:

rack equipment 301 for participating in information processing activities (column 1, lines 15-21, column 5, lines 35-37, column 7, lines 43-47);

a plurality of management components (plurality of controllers 201 managing the power within each sever 304, rack 301, or cluster 305 – column 7, lines 58-64) for managing power consumption and thermal load of said rack equipment (column 5, lines

Art Unit: 2116

20-34, line 56 – column 6, line 7, column 6, lines 59-62, column 7, lines 1-14, lines 43-47); and

a communication link for communicatively coupling said rack equipment and said plurality of management components, wherein said communication link communicates information between said plurality of management components and said rack equipment.

[Brock does not specifically state a communication link for communicatively coupling said rack equipment and said plurality of management components, wherein said communication link communicates information between said plurality of management components and said rack equipment. However, Brock discloses the management controller receiving input parameters 204-207 and outputting control signals 202-203 (i.e. communication link for receiving and sending information) used for managing the power of the servers mounted within the rack (column 7, lines 43-47). The same principle is extended through the system hierarchy (column 7, lines 58-64). Thus, Brock inherently discloses a communication link for communicatively coupling said rack equipment and said plurality of management components, wherein said communication link communicates information between said plurality of management components and said rack equipment].

Brock fails to disclose a management control center communicatively coupled to said plurality of management components for coordinating implementation of an equipment rack policy for power consumption and thermal load of said rack equipment.

Zimmer teaches a central power manager (FIG. 6, 600), communicating with the individual blades via a network bus (FIG. 6, OOB), for selectively adjusting the power

Art Unit: 2116

consumption based on the power management policy, including thermal management (column 6, lines 29-31, column 7, lines 38-53, lines 56-61, column 11, lines 11-37). In addition, Zimmer teaches implementing the desired power management policy by local adjustments within each blade (i.e. plurality of management components) in combination with the power arbiter (column 12, lines 24-30). In Zimmer, power management in the blade server environment (e.g. racks, Figures 1a-c) is done in a manner under which individual blades share a common power-management policy by employing firmware-based functionality (column 3, lines 27-30). Thus, proactive and aggressive platform power management is achieved without complicating the operating system (column 3, lines 29-32).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the above-described system and power management technique, as suggested by Zimmer with the rack equipment management system disclosed by Brock in order to implement a management control center communicatively coupled to said plurality of management components for coordinating implementation of an equipment rack policy for power consumption and thermal load of said rack equipment. One of ordinary skill in the art would be motivated to do so in order to implement a proactive and aggressive rack power management without complicating the platform operating system.

Regarding claim 2, Brock further discloses wherein said management component controls said power consumption and said thermal load of said rack equipment within a power consumption and heat dissipation budget (column 2, lines 40-48, column 4, lines 30-39, column 5, lines 17-34, column 7, lines 31-47).

Art Unit: 2116

Regarding claim 3, Brock further discloses further comprising an operator interface for presenting disparate information in a unified manner and facilitating adjustments in said rack equipment's operating settings and performance levels (column 8, lines 45-49).

Regarding claim 4, Brock further discloses wherein said management component 201 analyzes information communicated on said communications link and determines applicability of management plan policies to said information (column 2, lines 40-48, column 5, lines 17-34, line 56 – column 6, line 13, column 7, lines 3-14, column 8, lines 1-13).

Regarding claim 5, Brock further discloses wherein said management component directs manipulation of said power consumption and said thermal load of said rack equipment in accordance with management plan policies (column 5, line 56 – column 6, line 13, column 7, lines 3-14, column 8, lines 13-35).

Regarding claim 6, Brock further discloses wherein said management component 201 is included in an intelligent power distribution unit 301, wherein said intelligent power distribution unit aggregates multiple power line cords from said rack equipment into a smaller number of power line cords at a rack level.

[Brock does not specifically state wherein said intelligent power distribution unit aggregates multiple power line cords from said rack equipment into a smaller number of power line cords at a rack level. However, Brock discloses using the rack for mounting individual servers and providing input distribution power to all stand-alone servers (column 5, lines 9-13 – i.e. the power line cords for the individual stand-alone servers are aggregated at the rack level). Thus, Brock inherently discloses wherein said

Art Unit: 2116

intelligent power distribution unit aggregates multiple power line cords from said rack equipment into a smaller number of power line cords at a rack level]

Regarding claim 7, wherein said communication link communicates information compliant with protocol permitting automatic configuration of power consumption and heat dissipation for said rack equipment (the process and sequence of steps (i.e. protocol) for receiving input parameters and outputting the required control parameters over the communication link for regulating the power consumption is executed automatically, based on receiving new policy and service parameters at run time – column 7 line 65 – column 8, line 35, FIG. 4).

Regarding claim 8, Brock discloses a rack equipment management method comprising:

receiving information related to rack equipment management plan (column 6, line 59 – column 7, line 3, lines 43-47, line 66 – column 8, line 1);

analyzing policies of said rack equipment management plan associated with rack equipment operation (column 2, lines 34-40, column 5, lines 17-34, column 8, lines 1-13); and

directing manipulation of power consumption and thermal load associated with said rack equipment (column 2, lines 40-48, column 5, lines 17-34, line 56 – column 6, line 13, column 7, lines 9-14, lines 31-47, column 8, lines 13-25).

Brock fails to disclose the steps of receiving, analyzing, and directing at and from a management control center.

Zimmer teaches a central power manager (FIG. 6, 600), communicating with the individual blades via a network bus (FIG. 6, OOB), for selectively adjusting the power

Art Unit: 2116

consumption based on the power management policy, including thermal management, where power consumption events are received, analyzed, and appropriate power adjustments are made (column 6, lines 29-31, column 7, lines 38-53, lines 56-61, column 11, lines 11-37). In Zimmer, power management in the blade server environment (e.g. racks, Figures 1a-c) is done in a manner under which individual blades share a common power-management policy by employing firmware-based functionality (column 3, lines 27-30). Thus, proactive and aggressive platform power management is achieved without complicating the operating system (column 3, lines 29-32).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the power arbiter, receiving, analyzing, and controlling the platform power consumption, as suggested by Zimmer with the method disclosed by Brock in order to implement the steps of receiving, analyzing, and directing at and from a management control center. One of ordinary skill in the art would be motivated to do so in order to implement a proactive and aggressive rack power management without complicating the platform operating system.

Regarding claim 9, Brock further discloses wherein said rack equipment is associated with information processing (column 1, lines 15-21, column 5, lines 35-37).

Regarding claim 10, Brock further discloses wherein directing includes issuing a command to manipulate operation of equipment associated with supporting rack equipment operations (column 5, lines 17-34 line 56 – column 6, line 13, column 7, lines 9-14).



Art Unit: 2116

Regarding claim 11, Brock further discloses wherein said manipulation includes instructions to adjust frequency and voltage of said rack equipment (column 5, lines 17-34 line 56 – column 6, line 13, column 7, lines 9-14).

Regarding claim 12, Brock further discloses wherein said manipulation includes turning on and off said rack equipment (column 5, lines 29-34, column 6, 9-13).

Regarding claim 13, Brock further discloses automatically adjusting said rack equipment management plan interactively (the process and sequence of steps for receiving input parameters and outputting the required control parameters (i.e. interacting) over the communication link for regulating the power consumption is executed automatically, based on receiving new policy and service parameters at run time – column 7 line 65 – column 8, line 35, FIG. 4).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 2116

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Stoynov whose telephone number is (571) 272-4236. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS



A. ELAMIN  
PRIMARY EXAMINER